



ROLE OF ENVIRONMENTAL EDUCATION IN ENVIRONMENTAL PROTECTION AND SUSTAINABLE DEVELOPMENT

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ABSTRACT

Environment can be defined as the sum total of all conditions and influences that affect the development and life of organisms. Environment is interwoven in day-to-day life of human beings and man can play a great role in preserving and improving the environment for the sake of a better future through environmental education. Different developmental activities throughout the world are accelerating the pace of environmental degradation. This accounts for scarcities of natural resources, which subsequently threaten the sustained productivity and development. Therefore, for a sustainable development, every country needs to follow a stringent environmental policy where people will be responsible for ensuring long-term development. In such critical situation, it is crucial that education of the environment be placed at the centre stage in the developmental matrix. Indeed environmental education must be accepted as a prerequisite for sustainable development (Howell C.A, 1993) and programs must be chalked out both through formal and non-formal systems.

KEY WORDS: Environment, Environmental education, Sustainable development.

ENVIRONMENT:

Environment is defined comprehensively to include all relationships between humans and all that impact upon them and all that they impact (Caldwell L.K., 1993). Environment is interwoven in day to day lives of human beings and as such man plays a great role in preserving and improving the environment for a better future. Education is regarded as acquisition of knowledge, skill, attitude, values and character. So education needs to be regarded as investment of the highest order which transforms into an asset over time. It is through education that the knowledge, skills, values and attitudes necessary for development are acquired. Education is always planned to reach a target. In case of environmental education the target may be the enrichment of the living environments where it means transforming the environment in accordance with the nature's laws and not by the laws of man.

ENVIRONMENTAL EDUCATION:

It refers to branch of experimental education that focuses on teaching students about the natural world and their relationship with it. It deals with the ways human systems impact the environment and the way the environment in turn impacts human society. Environmental education is both theoretical and practical as it is learning how to manage and improve the relationship between human society and the environment in an integrated and sustainable way. Goal of environmental education is to develop responsible environmental behavior and improve environmental quality. A complete environmental education enhances critical thinking, problem solving and effective decision making skills.

OBJECTIVE OF THE STUDY:

The present study has the following objectives.

1. The main objective is to encourage students to be passionate about nature, its development and to understand their place in the natural world.
2. To create awareness among the students about the environmental issues and conservation technique.
3. To create an atmosphere so that people can participate in decision making and developmental processes.
4. To make students acquire knowledge, develop attitudes, values, skills and abilities and participate in solving real life environmental problems.

The objectives can be sub-divided into three domains- cognitive, affective and psychomotor.

- a. The objectives in cognitive domain are to acquire knowledge, understanding and awareness about environment and its problems.
- b. The objectives in affective domain relate to creation of interest, formation of attitudes, fostering values, development of appreciation and making behavioral adjustments.
- c. The objectives in psychomotor domain are achieved through participation in various activities related to the environmental education, e.g. excursions, participation in afforestation programs, prevention of soil erosion and con-

servation of natural resources.

COMPONENTS OF ENVIRONMENTAL EDUCATION:

- a. **Awareness:** Awareness and sensitivity to the environment and its allied problems.
- b. **Knowledge:** Understanding and experience of the environment.
- c. **Attitude:** A set of values, feelings and motivation for the environmental protection.
- d. **Skill:** For Identification and solution of environmental problems.
- e. **Evaluation Skill:** For awareness and educational programs.
- f. **Participation:** To be actively involved for working towards the resolutions of environmental problems.

ENVIRONMENTAL CRISIS AND CONTROL:

In the recent decades population explosion poses serious problems to environment and sustainable growth. To meet the needs of the growing population we promote deforestation, urbanization, industrialization, chemicalization of agriculture and destruction of natural resources. These are responsible for environmental crisis, which have made the earth unfit for our existence. So environmental crisis, its control and conservation have become the burning issues of the hour. Following factors are responsible for environmental crisis.

1. **Population Explosion:** Too much dependence on nature due to ever increasing needs of over-population results in environmental crisis.
2. **Human Activities:** Daily human activities to meet such needs are against the nature and result in environmental degradation.
3. **Deforestation:** Forests and its natural resources are destroyed day by day for population explosion day by day for population explosion.
4. **Urbanization:** As towns and cities increase pollution increases.
5. **Industrialization:** Increased industrial disposal and wastes in the form of sound, smoke, fume, chemicals, dirty water and metals cause air, water, sound and soil pollution and damage the ecosystem.
6. **Fertilizers and Pesticides:** Excessive use of chemical fertilizers and pesticides can reduce the fertility of the soil, pollutes air and water and damage our environment adversely.
7. **Transports:** Ever increasing number of vehicles cause air and noise pollution and produce deafness, blood pressure, peptic ulcers and heart troubles.

CONTROL OF ENVIRONMENTAL CRISIS:

It is the need of the hour to conserve natural resources and control environmental crisis with all efforts for the betterment of human life. To reach the goal following

measures should be followed:

1. Education is the most powerful instrument by which people should be prepared for or made aware of a healthy environment.
2. Environmental education should be included in the curriculum and should be taught as an integral part of general education at all stages.
3. Government rules, regulations and controlling mechanisms according to environmental laws should be reinforced and made mandatory for all.

In 1972 the Indian Govt. enacted the Wildlife Protection Act. Our Govt. also passed the Air (Prevention and control of pollution) Act in 1981, Environment (protection) Act in 1986 and the Water Act in 1974. The Forest Conservation Act of 1980 was amended in 1988 to protect the forest resources and the Wildlife Protection Act (1972) was also amended in 2002 to prevent the commercial use of resources by the local people. In this way the Environment Acts should be strengthened, implemented and put to practice to safeguard the natural environment and resources from crisis.

ENVIRONMENTAL CONSERVATION:

Conservation means the management and use of the biosphere in such a way that it provides the greatest benefit to the present generation and maintains its potential for the future generation. McMillan Dictionary of Environment describes environmental conservation as the planning and management of resources so as to secure their wise use and continuity of supply while maintaining and enhancing their quality, volume and diversity. In fact it is the careful use of the environment using all planning, foresight and preventive measures from destructive influences, natural decay or waste of environment.

Measures to be taken for Conservation and Protection of Environment: Some of our daily activities have led to the degradation and destruction of our natural environment. So it is very important to conserve and protect the environment for our survival by implementing the following measures:

1. Tree plantation should be emphasized in places where trees are cut down for unavoidable reasons.
2. Rotation of crops should be maintained by cultivating the land for different crops like paddy, jute, sugarcane.
3. Judicious use of fertilizers, proper drainage and irrigation should be made in order to conserve and protect the fertility and productivity of the soil.
4. Composing organic solid waste for use as manure.
5. Rain water should be stored and used in harvesting.
6. The sewage should be treated properly in order to check pollution of rivers and water bodies.
7. Government should encourage afforestation, establish national parks and conserve forest resources.
8. Dispose the waste after separating them into bio-degradable waste material.

SUSTAINABLE DEVELOPMENT:

Sustainable development means extending progress beyond foreseeable future without exhausting available resources. The goal of sustainable development is to improve living standards and the quality of lives, both now and for future generations. The World Commission on Environment and Development (1987) defined sustainable development as, "meeting the needs of the present without compromising the ability of future generations to meet their own needs".

The population explosion as well as rapid development in science and technology in the last century has created excessive demand on natural resources. So it is necessary to maintain a balance between the environment and economic development. It can be achieved by sustainable development which aims to bring about a harmony between man and nature and to reduce dependence of natural resources. Sustainability can be achieved through the following practices:

1. Preservation of natural resources as far as possible.
2. Renewable resources like forest and fisheries must be restored after their exploitation.
3. Non Renewable resources (i.e., oil, natural gas and minerals) that cannot be restored after exploitation should be used judiciously.
4. Environmental friendly technologies should be adopted in large scales for crop rotation, mixed cropping and bio-fertilizers.
5. Recycling and reusing technologies should be adopted for treating waste

materials.

6. Monitoring climate change, bio-diversity and disposal of hazardous toxic is vital for effective environmental management.
7. Sustainability should be assured in large scale by imparting environmental education at school and college level.

ROLE OF EDUCATION AND TEACHER IN ENVIRONMENTAL PROTECTION AND SUSTAINABLE DEVELOPMENT:

The teacher is the maker of man and builder of the future nation. Education can help him in bringing about desirable social change in the society. The teacher can give the right direction to the society. He must develop a positive attitude and desirable values among the students in order to build a healthy environment. A teacher can promote the following practices for the conservation and sustainable development of the environment:

1. Interest among the students in natural environment should be developed.
2. A deep sense of appreciation of natural environment and resources should be developed.
3. Awareness of environmental pollution, hazards and threats should be increased.
4. Information about the pollutants of air, water and soil as well as preventive measures and control of these hazards should be provided to all.
5. Students and people should be aware of the diseases and consequences of air, water, soil, nuclear or chemical pollution.
6. A balanced curriculum that can bring about a desirable behavioral change in relation to environment should be developed and implemented.
7. Students should be motivated and trained to acquire and spread knowledge, skill, attitude and values that would help the society to solve environmental problems and prevent their occurrence.
8. Seminars and workshops on environmental issues such as deforestation, soil erosion should be organized.
9. Field trips to zoos, national parks, polluted cities and rivers should be organized for the students to give them experiences.
10. Students should be motivated to investigate the environmental issues, evaluate the situations and make decision towards promotion of environment and conservation of natural resources.

INSTRUCTIONS IN ENVIRONMENTAL CHANGES:

Environmental education should be practiced, not merely theoretical. Teachers should provide the students nature study tours which will open an opportunity of practical experience on nature. The following activities and practices in the program of environmental instruction are essential for environmental conservation and sustainable development:

1. Observation and collection of the specimens of plants and flowers.
2. Observation of animals, their modes of living and problems or hazards faced by them; if any.
3. Listening and recognizing the sounds of rivers, springs, birds and animals.
4. Collection of pictures of plants, birds and animals.
5. Survey on environmental hazards, pollution and its effect on environment.
6. Study of forest life and comparison with other countries.
7. Competition of essays, poems and posters on nature.
8. Conducting debates, discussion, and quiz on topics related to environment.
9. Arranging lectures, seminars, exhibitions on environmental issues such as global warming, river pollution etc.
10. Keeping the premises and surrounding environment clean.

CONCLUSION:

As an active member and catalyst of our society, a teacher must spread an awareness of a healthy environment in and outside the classroom in both theoretical and practical modes. Both the students and community should be made to under-

stand their roles in environmental conservation and sustainable development. So the teacher becomes an effective and powerful agent to make every member of our society maintain a sound environment for the interest of the present as well as the future generations.

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